

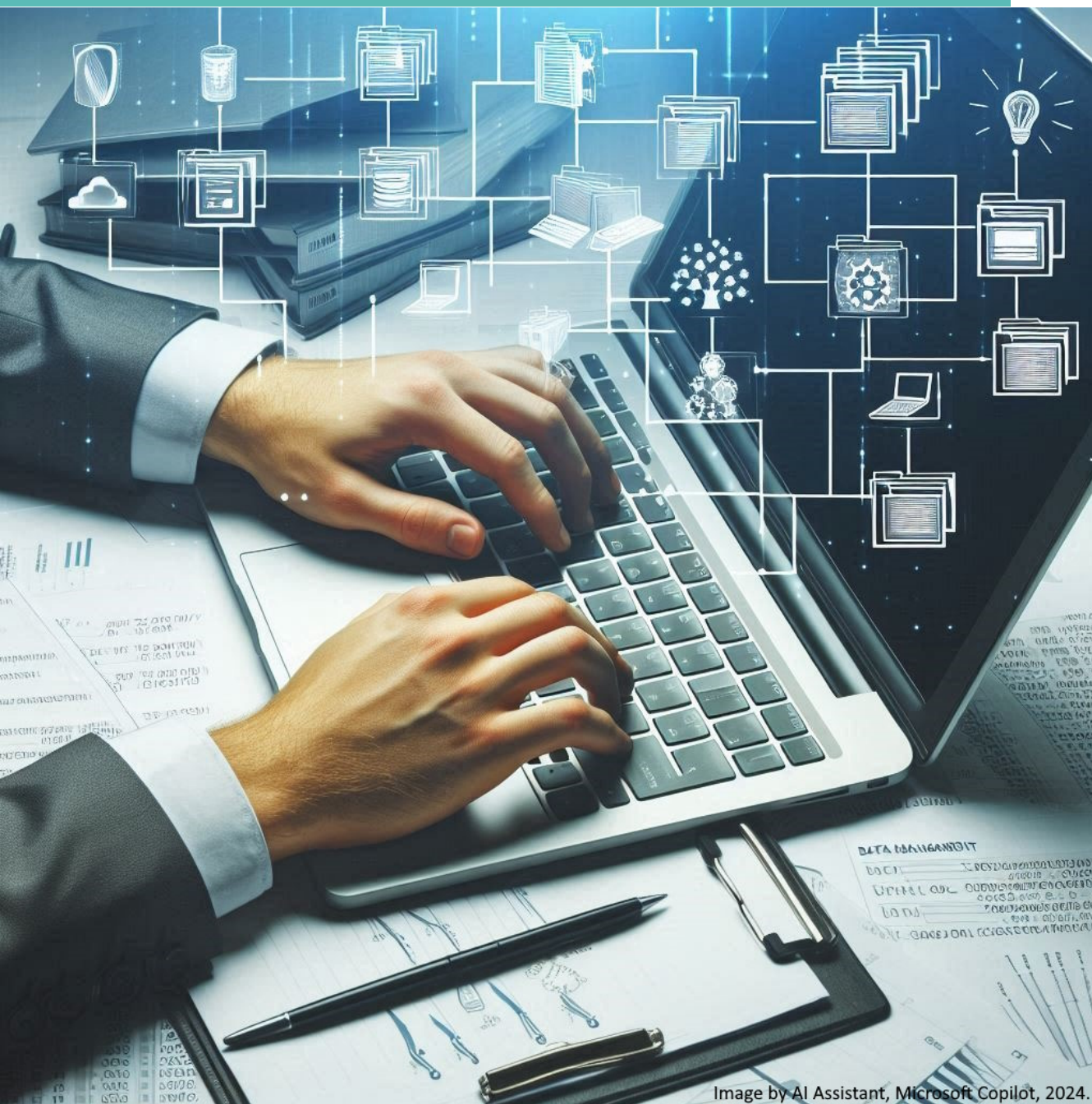


Fakulta rybnářství  
a ochrany vod  
Faculty of Fisheries  
and Protection  
of Waters

Jihočeská univerzita  
v Českých Budějovicích  
University of South Bohemia  
in České Budějovice



South Bohemian Research Center  
of Aquaculture and Biodiversity  
of Hydrocenoses



# Data management at CENAKVA LRI

Jaromír Kovárník  
Praha 9-11. 10. 2024





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# Faculty of Fisheries and Protection of Waters

**University of South Bohemia**

**Core Focus:**

- Research and education in freshwater fisheries, aquaculture,
- and water protection.

**Main Activities:**

- Applied research and commercialization.
- Lifelong learning programs.
- Partnerships with industry, government agencies, and other institutions.

**Unique Position:**

- Only faculty of its kind in the Czech Republic.

**International Collaboration:**

- Active in European projects and exchange programs.





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# South Bohemian Research Center of Aquaculture and Biodiversity of Hydrocenoses (CENAKVA)

## Focus Areas:

- Quality of freshwater fish
- Biology and conservation of sturgeons
- Sustainable pond and intensive aquaculture
- Biology and conservation of crayfish and other invertebrates
- Water quality and aquatic environment

## Research Facilities:

40 hectares of experimental ponds, Closed recirculating and aquaponic systems

Breeding and reproduction of nearly 30 species of freshwater fish and crustaceans

Laboratories: Advanced biological, chemical, and toxicological laboratories

**International Collaboration:** Part of European research infrastructure, collaborating with 22 partners from 12 European countries



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- **RP1: Reproductive and Genetic Procedures for Fish Biodiversity Conservation and Aquaculture**
  - Focuses on fish reproduction and genetics to conserve biodiversity and support aquaculture
- **RP2: "New" Pollutants in the Environment and Their Effect on Freshwater Ecosystems**
  - Investigates the impact of emerging pollutants on freshwater ecosystems and seeks ways to mitigate these effects
- **RP3: Sustainable Aquaculture with Responsible Water and Nutrient Management**
  - Aims to develop sustainable aquaculture practices that efficiently use water and nutrients.
- **RP4: Freshwater Ecosystems in the Era of Global Change**
  - Studies freshwater ecosystems and their responses to global changes, such as climate change



# data management challenges

- The pressure to the data management will be increasing
- All project applications contain data management part
- Unified OS policy in development
- Dean's measure - Experimental Data and Metadata Processing by Doctoral Students
- reluctance, fear of opening data.





# Open Science Communication

- 1. Data steward:** personal survey in all laboratories
- 2. Lectures and Training:** lectures and training sessions where researchers can learn about the principles and benefits of open science.
- 3. Important Information via Email:** Researchers regularly receive important information about open science through emails, which include updates, new policies, and opportunities for involvement.
- 4. Information on a Specialized Page at JU:** The University of South Bohemia (JU) has a specialized webpage where information about open science is available, including guides, resources, and current news.
- 5. Participation in International Events, such as OAW (Open Access Week):** Researchers can participate in international events like Open Access Week, where the latest trends and challenges in open science are discussed, and best practices are shared.



# Data types

## Tabular Data:

- **Formats:** .xls, .xlsx, .csv
- **Usage:** Measurement and weighing of fish, growth and mortality data, feeding experiments, toxicological studies, growth curves, biochemical data.

## Video Files:

- **Formats:** .avi, .mp4, .mkv
- **Usage:** studies on fish and crayfish behavior, videos of cell behavior, and fish appearance.

## Image Files:

- **Formats:** .tiff, .jpg, .png
- **Usage:** Microscopy images, fish appearance, cytometric measurements, compressed images.



# Data types

## Special Scientific Formats

- Formats: **.fsa** (DNA sequencing), **.fcs** (cytometry), **.fastq** (raw sequence reads), **.bw** (BigWig, methylation visualization), **.bed** (DNA annotations), **.bam** (aligned sequence data)
- Usage: DNA sequencing data and cytometric measurements.

## Other Formats:

- **Formats:** **.txt** (text data), **.pdf** (documents and reports)
- **Usage:** Processed data, graphs, tables, and reports.





# Data

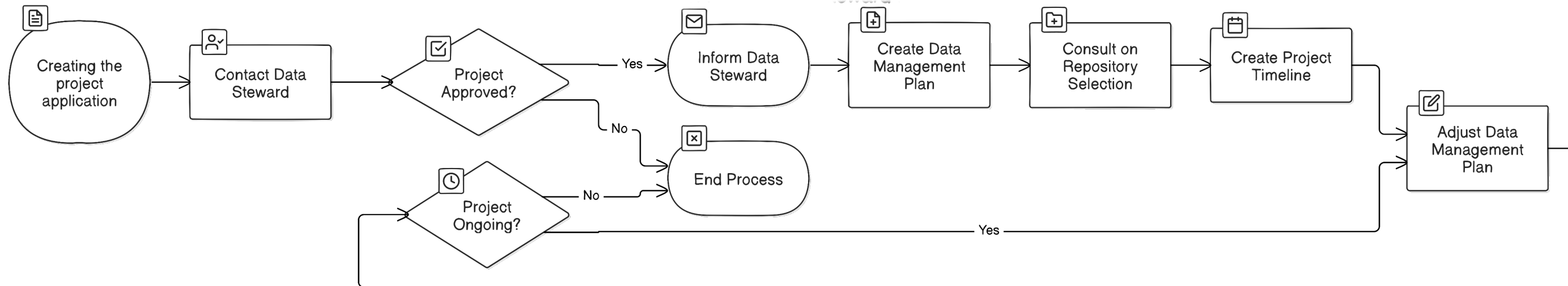
- **Sturgeon Gene Bank:** The largest in the world, encompassing various sturgeon species.
- Research on **New Pollutants:** Analysis of the impact of emerging pollutants on freshwater ecosystems.





# Data management

- Established Data Stewards position





# Repositories

## General data repositories:

- Zenodo
- Mendeley Data
- Dryad

Laboratories: 14  
Share data : 3

## Subject-specific data repositories:

- NCBI
  - Provides access to biomedical and genomic information.

## Other Subject-specific storage

- [www.iaffd.com](http://www.iaffd.com)
- [www.feedipedia.org](http://www.feedipedia.org)
  - data from the fish feeding experiments.

**List of FAIR datasets is on CENAKVA website.**

<https://www.frov.jcu.cz/en/faculty/faculty-parts/south-bohemian-research-centre-for-aquaculture-and-biodiversity-of-hydrocenoses-cenakva/large-research-infrastructure-cenakva#7>



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# EOSC - CZ

## Especially groups:

- Environmental Sciences
- Bio/Health/Food

## Institutional repository

- based on Dspace
- limited capacity
- under construction



Possible cooperation with MU on repository with toxicological data